

# Mathematics by Experiment

Jonathan Borwein  
David Bailey

Mathematicians have always used experiments and visualization to explore new ideas and ways to prove them.

Using examples that truly represent the experimental methodology, this book provides the historical context of, and rationale behind, experimental mathematics. It shows how today, the use of advanced computing technology provides mathematicians with an amazing, previously unimaginable "laboratory," in which examples can be analyzed, new ideas tested, and patterns discovered.

This is a perfect introduction to the history and current state of research and technology in the growing field of experimental mathematics.

For those interested in further examples and insights, the book *Experimentation in Mathematics: Computational Paths to Discovery* is highly recommended.



Borwein  
Bailey

Mathematics  
by Experiment

# Mathematics by Experiment

Plausible Reasoning in the 21st Century

Jonathan Borwein  
David Bailey



A K Peters, Ltd.

ISBN 1-56881-211-6



9 781568 812113



A K Peters